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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,688	03/03/2005	Kazuo Kohmura	MITSP101US	5294
23623 7590 04/23/2008 AMIN, TUROCY & CALVIN, LLP 1900 EAST 9TH STREET, NATIONAL CITY CENTER 24TH FLOOR, CLEVELAND, OH 44114				
EXAMINER MOORE, MARGARET G				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
04/23/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

doctet1@thepatentattorneys.com  
hholmes@thepatentattorneys.com  
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# Office Action Summary

**Application No.**

10/526,688

**Applicant(s)**

KOHMURA ET AL.

**Examiner**

Margaret G. Moore

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3 to 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3 to 8, 11, 12, 15, 16, 18, 20 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 13, 14, 17 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1796

1. Claims 9, 10, 13, 14, 17 and 19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These claims depend upon a canceled claim, claim 2, and thus cannot be considered further limiting.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 6 to 8, 15, 16, 18 and 20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wu et al.

The instant claims are in product by process format. While applicants have amended the process claims such that they are not anticipated by Wu et al., they have not provided any arguments as to why or how the product claims distinguish themselves from Wu et al. Specifically, while a one step treatment process differs from the two step process specifically taught in Wu et al., it is not clear how this difference will result in an inherently different final product.

Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Please note MPEP 2113, which addresses the appropriateness of a rejection under 35 U.S.C. 102/103 for product by process claims. In the instant application the reactants, substrate and heating temperature are the same as that taught by the prior art. The prior art even teaches treating the substrate with the organosilicon compound in vapor form (column 7, lines 66 and on). Thus the Examiner cannot determine how the difference in process (which is an obvious difference, as noted below) results in a different product.

Art Unit: 1796

4. Claims 1, 3 to 5, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al.

While Wu et al. do not specifically teach treating the substrate with an organosilicon vapor during heat treatment in a temperature range as claimed, Wu et al. do teach vapor phase treatment. As can be seen from the top of column 8, the vapor phase monomer must exhibit a satisfactory boiling point to yield an effective surface. The boiling points of the organosilicon compounds in Wu et al. are within the temperature range of the claimed thermal treatment.

The difference between the claimed process, in which the organosilicon is contacted with the substrate in a gas phase during thermal treatment, and that specifically shown in the prior art, in which the organosilicon is vaporized by reduced pressure and contacted with the substrate followed by thermal treatment, would have been obvious.

First, since Wu et al. reference boiling point requirements for the organosilicon compound used for vapor phase treatment and since heating is a common method of vaporizing a compound, the skilled artisan would have been motivated to heat the vapor phase monomer to its boiling temperature to cause vaporization. Using this vaporized monomer in the process of Wu et al. would have been obvious. If a heat vaporized silicon monomer is used, it would follow that this would be directly contacted with the substrate while undergoing heat treatment. It would be counter productive and require extra, unnecessary steps, to heat vaporize the monomer, followed by contacting it with a cooler substrate only to heat the substrate and monomer again. In addition, since the organosilicon monomer is intended to come into contact with the substrate in the vapor phase, one must maintain heating to ensure vaporization. The skilled artisan would also have been motivated to contact the heat vaporized monomer with the substrate while undergoing heat treatment to ensure that the monomer remains in the vapor stage for treatment.

For these reasons, the skilled artisan would have found the instantly claimed process to have been obvious over the teachings of Wu et al.

For claims 5, 11 and 12, the Examiner maintains the obviousness rationale as noted in the previous office action.

5. Claims 1 and 3 to 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Smith et al.

This rejection relies on the rationale of record. Applicants' traversal is not persuasive. Applicants assert that the porous surface in Smith is of such a low stiction that the skilled artisan would not have been motivated to use it in the process of Martin which results in reduced stiction. This is not persuasive. Applicants' mere assertion that the surface of Smith has a low stiction surface is not supported. In addition, even if the surface of Smith has a low stiction surface, this does not lead one away from lowering the surface stiction even further. One having ordinary skill in the art would have recognized that applying the known technique of reducing stiction on polysilicon substrates, as shown by Martin, on the substrate of Smith et al. (which has many beneficial properties as disclosed therein) would have yielded predictable results. As such the Examiner maintains the obviousness of these claims.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-

Art Unit: 1796

272-1090. The examiner can normally be reached on Monday and Wednesday to Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Margaret G. Moore/  
Primary Examiner, Art Unit 1796

mgm  
4/16/08